

Notice of Allowability

Application No.

09/714,382

Examiner

John Pezzlo

Applicant(s)

JENSEN ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed 8/16/2004.
2. ☒ The allowed claim(s) is/are 1-3, 7-9, 13-15, 19-21, 25-27 (renumbered 1-15 respectively).
3. ☐ The drawings filed on _____ are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.


Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☒ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☒ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☒ to Paper No./Mail Date 7.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 16 Aug 2004
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


JOHN PEZZLO
PRIMARY EXAMINER

DETAILED ACTION

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Robert A. Greenberg on 20 October 2004.

The claims have been amended as follows:

1. Claim 1 – Line 15, replaced "specifying a destination" with -- specifying the destination --.
2. Claim 1 – Line 22, after "a first data frame" inserted -- according to a different protocol --.
3. Claim 2 – Line 3, replaced "one of a port" with -- one of the port-- .
4. Claim 2 – Line 4, replaced "if a match" with -- if the match --.
5. Claim 7 – Line 5, replaced "to a mesh" with -- to the mesh -- .
6. Claim 7 – Line 21, after "a first data frame" inserted -- according to a different protocol --.
7. Claim 8 – Line 4, replaced "of a port" with -- of the port -- .
8. Claim 13 – Line 9, replaced "of the received data" with -- of a received data -- .

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9. Claim 13 – Line 21, after "a first data frame" inserted -- according to a different protocol --.
10. Claim 14 – Line 3, replaced "of a port" with -- of the port --.
11. Claim 14 – Line 5, replaced "if a match" with -- if the match --.
12. Claim 19 – Line 3, replaced "to a destination" with -- to the destination --.
13. Claim 19 – Line 5, replaced "at a source" with -- at the source --.
14. Claim 19 – Line 14, replaced "of a port" with -- of the port --.
15. Claim 19 – Line 25, after "a first data frame" inserted -- according to a different protocol --.
16. Claim 20 – Line 3, replaced "of a port" with -- of the port --.
17. Claim 25 – Line 11, replaced "of a port" with -- of the port --.
18. Claim 25 – Line 17, replaced "in a data" with -- in the data --.
19. Claim 25 – Line 23, after "a first data frame" inserted -- according to a different protocol --.
20. Claim 26 – Line 3, replaced "of a port" with -- of the port --.

Allowable Subject Matter

Claims 1-3, 7-9, 13-15, 19-21, and 25-27 are allowable over the prior art of record.

Reasons for Allowance

The following is an examiner's statement of reasons for allowance: Applicants have claimed uniquely distinct features in the instant invention, which are not found in the prior art, either singularly or in combination. Each independent claim identifies the following uniquely distinct features:

1. Regarding claim 1 – A method of transmitting data through a mesh of data switches, the method comprising: receiving a data frame at a first port of a receiving data switch, the data frame originating at a first MAC device and having a destination address associated with a second MAC device, the second MAC device being associated with a destination data switch in the mesh, maintaining a data structure associating each of a plurality of destination addresses of discovered MAC devices with one of a port and an aggregation of ports on the receiving data switch, comparing the destination address of the received data frame with the data structure to determine a match with an associated one of a port and aggregation of pods, transmitting the received data frame through the mesh of data switches according to a spanning tree protocol if no match is determined, and receiving a message at the receiving data switch specifying the destination data switch associated with the destination address of the second MAC device, associating in the data structure the destination address of the second MAC device with a transmitting port on the receiving data switch, and suspending a transition for transmission of subsequent data frames to the second MAC device through a data path including the transmitting port to ensure a delay from a transmission of a last data frame according to the spanning tree protocol to a transmission of a first data frame according to a different protocol through the data path.
2. Regarding claim 7 – A source data switch for transmitting data frames through a mesh of data switches, the source data switch comprising: a switching fabric including a plurality of ports, logic to maintain a data structure associating each of a plurality of destination addresses of discovered MAC devices coupled to the mesh of data switches with one of a port and an aggregation of ports of the switching fabric, each port in the aggregation of ports coupling to a data path through the mesh of switches to a MAC device having the one of said plurality of destination addresses, logic to compare the destination address of the a received data frame with the data structure to determine a match with one of a port and an aggregation of ports, logic to transmit the received data frame through the mesh of data switches according to a spanning tree protocol if no match is determined, logic to receive a message specifying a destination data switch associated with the destination address of the received data frame, logic to associate in the data structure the destination address of the received data frame with a transmitting port of the switching fabric based upon the destination data switch, and logic to suspend a transition for transmission of subsequent data frames to the destination address of the received data frame through a data path including the transmitting port to ensure a delay from a transmission of a last data frame according to the spanning tree protocol to a transmission of a first data frame according to a different protocol through the data path.

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3. Regarding claim 13 – A data switch controller comprising: an interface adapted for coupling to a switching fabric, the switching fabric including a plurality of ports, logic to maintain a data structure associating each of a plurality of destination addresses of discovered MAC devices coupled to a mesh of data switches with one of a port and an aggregation of ports of the switching fabric, each port in the aggregation of ports coupling to a data path through the mesh of switches to a MAC device having the destination address, logic to compare the destination address of a received data frame with the data structure to determine a match with an associated one of a port and aggregation of ports, logic to transmit the received data frame through the mesh of data switches according to a spanning tree protocol if no match is determined, logic to receive a message specifying a destination data switch associated with the destination address of the received data frame, logic to associate in the data structure the destination address of the received data frame with a transmitting port of the switching fabric based upon the destination data switch, and logic to suspend a transition for transmission of subsequent data frames to the destination address of the received data frame through a data path including the transmitting port to ensure a delay from a transmission of a first data frame according to the spanning tree protocol to a transmission of a first data frame according to a different protocol through the data path.

4. Regarding claim 19 – A data network for transmitting data frames from a source MAC device to a destination MAC device, the data network comprising: a destination data switch coupled to the destination MAC device, a mesh of data switches coupled to the destination data switch for transmitting data frames originating at the source MAC device to the destination MAC device, and a source data switch coupled to the source MAC device including: a switching fabric including a plurality of ports, logic to maintain a data structure associating each of a plurality of destination addresses of discovered MAC devices coupled to the mesh of data switches with one of a port and an aggregation of ports of the switching fabric, each port in the aggregation of ports coupling to a data path through the mesh of switches to a MAC device having the destination address, logic to compare the destination address of the received data frame with the data structure to determine a match with an associated one of the port and aggregation of ports, logic to transmit the received data frame through the mesh of data switches according to a spanning tree protocol if no match is determined, logic to receive a message specifying a destination data switch associated with the destination address of the received data frame, logic to associate in the data structure the destination address of the received data frame with a transmitting port of the switching fabric based upon the destination data switch, and logic to suspend a transition for transmission of subsequent data frames to the destination address through a data path including the transmitting port to ensure a delay from a transmission of a last data frame according to the spanning tree protocol to a transmission of a first data frame according to a different protocol through the data path.

5. Regarding claim 25 – An article comprising: a storage medium comprising machine-readable instructions stored thereon for: maintaining a data structure associating each of a plurality of destination addresses of discovered MAC devices with one of a port and an aggregation of ports of a receiving data switch, detecting receipt of a data frame at a first port of a switching fabric, the switching fabric having a plurality of ports, the data frame having a

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destination address associated with a destination MAC device coupled to the switching fabric through a mesh of data switches at a destination data switch, comparing the destination address of the received data frame with the data structure to determine a match with an associated one of the port and aggregation of ports, transmitting the received data frame through the mesh of data switches according to a spanning tree protocol if no match is determined, receiving a message specifying a destination data switch associated with the destination address of the received data frame, associating in the data structure the destination address of the received data frame with a transmitting port of the switching fabric based upon the destination data switch, and suspending a transition for transmission of subsequent data frames to the destination address of the received data frame through a data path including the transmission port to ensure a delay from a transmission of a last data frame according to the spanning tree protocol to a transmission of a first data frame according to a different protocol through the data path.

The closest prior art, either singularly or in combination, fail to anticipate or render the above limitations obvious.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Claims 1-3, 7-9, 13-15, 19-21, and 25-27 being allowable, **Prosecution On The Merits Is Closed** in this application.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

1. Pearce et al. (US 6,556,574 B1) discloses a duplicate ignore delay timer for ARP like protocol messages using ARP protocol.

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2. Gai et al. (US 6,535,491 B2) discloses a method and apparatus for rapidly reconfiguring computer networks using a spanning tree algorithm.
3. Ayanoglu et al. (US 6,122,759) discloses a method and apparatus for restoration of an ATM network.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Pezzlo whose telephone number is (571) 272-3090. The examiner can normally be reached on Monday to Friday from 8:30 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou, can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2600.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C.

or faxed to:

(703) 872-9306

For informal or draft communications, please label "PROPOSED" or "DRAFT"

Hand delivered responses should be brought to:

500 Dulany Street

Room 2A15

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Alexandria, VA.

John Pezzlo

22 October 2004



JOHN PEZZLO
PRIMARY EXAMINER